

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
3 February 2005 (03.02.2005)

PCT

(10) International Publication Number  
**WO 2005/010642 A2**

(51) International Patent Classification<sup>7</sup>:

G06F

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(21) International Application Number:

PCT/IL2004/000704

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(22) International Filing Date: 1 August 2004 (01.08.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/491,235

31 July 2003 (31.07.2003)

US

60/510,553

14 October 2003 (14.10.2003)

US

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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Published:

— *without international search report and to be republished upon receipt of that report*

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: METHOD AND APPARATUS FOR LEARNING, RECOGNIZING AND GENERALIZING SEQUENCES

(57) Abstract: A method of generalizing a dataset having a plurality of sequences defined over a lexicon of tokens is provided. The method comprises: searching over the dataset for similarity sets, where each similarity set comprises a plurality of segments of size L having L-S common tokens and S uncommon tokens; and defining a plurality of equivalence classes corresponding to uncommon tokens of at least one similarity set. The method may further comprise a step in which a plurality of significant patterns are extracted, where each significant pattern corresponds to a most significant partial overlap between one sequence of the dataset and other sequences of the dataset. In one embodiment, a generalized dataset represented by a graph or a forest is constructed, and can be realized as a context-free grammar. The graph or forest can be used for generating sequences and/or testing grammatical structures.



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